REPLY BRIEF TRANSMITTAL LETTER

February 7, 2008

MAIL STOP APPEAL BRIEF - PATENTS
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Re: Appellant: Anatoliy V. Tsyrganovich
Assignee: ZiLOG, Inc.
Title: "Circuit and Method for Reducing East-West Geometry Mismatch Between the Top and Bottom of a Raster Display"
Serial No.: 10/820,237   Filed: April 5, 2004
Examiner: Angela M. Lie   Art Unit: 2163
Atty. Docket No.: ZIL-519-1C

Dear Sir:

Transmitted herewith are the following documents:
(1) Reply Brief (11 pages);
(2) a check for the appeal brief fee ($510.00);
(3) a return postcard; and
(4) this transmittal sheet (in duplicate).

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CLAIMS AS AMENDED						
	REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	20	minus	20	0	$50	$0.00
INDEP. CLAIMS	3	minus	4	0	$200	$0.00
Total Additional Claim Fee						$0.00
Fee for Notice of Appeal [§41.20(b)(1)]						$0.00
Fee for filing a brief in support of an appeal [§41.20(b)(2)]						$510.00
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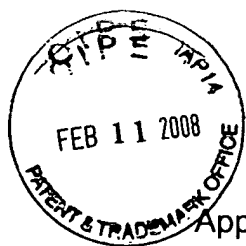
By _Susan M. Wallace_

Date of Deposit: February 7, 2008

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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REPLY BRIEF

Appellant requests that the appeal be maintained by filing this Reply Brief in response to the Examiner's Answer filed December 10, 2007.

I. STATUS OF CLAIMS

Claims 55-74 are pending. Claims 55 and 60-74 stand rejected, and claims 56-59 are objected to. The rejected claims, namely, claims 55 and 60-74, are subject to the present appeal.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following are grounds of rejection to be reviewed on appeal:

1) Whether claims 55 and 61 are unpatentable under 35 U.S.C. §102(b) over Jackson et al. (U.S. Patent No. 5,475,286).

2) Whether claims 60, 62-67, 69-72 and 74 are unpatentable under 35 U.S.C. § 103(a) over Jackson et al. in view of George (U.S. Patent No. 5,648,703).

3) Whether claims 68 and 73 are unpatentable under 35 U.S.C. §103(a) over Jackson in view of George and further in view of Pspice (http://www.orcad.com/pspicead.aspx).

III. ARGUMENT

A. Introduction

The claims on appeal stand rejected because the Examiner has failed to recognize the implications of the disclosure of Jackson. The Examiner relies on waveform F of Jackson as a basis for all of the rejections. The true qualities of waveform F are other than as characterized by the Examiner.

The Examiner's Answer does not include any rejection designated as a new ground of rejection.

B. Claims 55 and 61 are patentable over Jackson

In the Examiner's Answer, the Examiner makes two rebuttal arguments as to why Jackson discloses the recited "correction signal with no discontinuities". First, the Examiner argues that "figure 3, part F clearly illustrates a correction signal having no discontinuities" (Examiner's Answer, p. 9, lines 5-6 (emphasis in original)). Second, the Examiner argues that the signal of part F discloses the recited correction signal because "current limitations do not recite that the correction signal with no discontinuities is the only signal used to remove distortions" (Examiner's Answer, p. 9, lines 13-14 (emphasis in original)). The first rebuttal argument is factually incorrect, and the second rebuttal argument incorrectly applies established tenets of claim construction. Therefore, the rejections under 35 U.S.C. § 102(b) of claims 55 and 61 as being anticipated by Jackson should be overruled.

(i) The waveform of figure 3, part F, has discontinuities.

Jackson explains that the waveform of figure 3, part F, has the discontinuities that the invention of claim 55 eliminates. Moreover, the discontinuities in waveform F are apparent in figure 3F of Jackson.
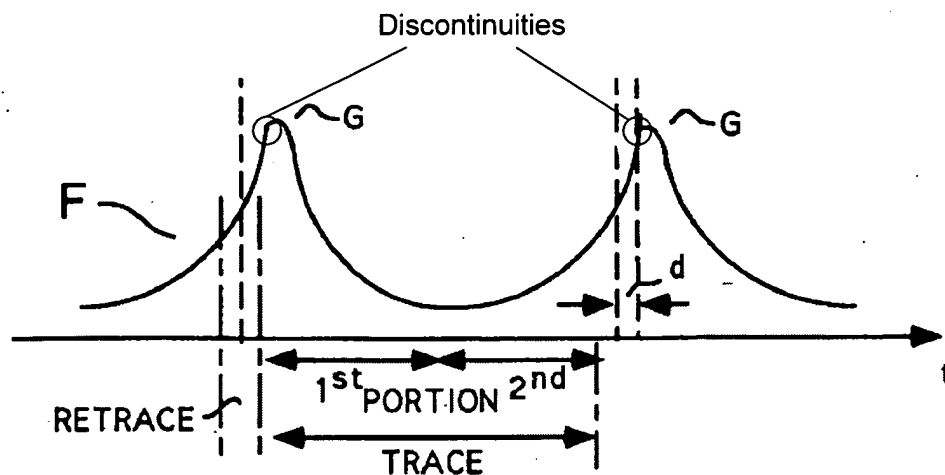
Jackson discloses that figure 3A depicts the parabolic waveform at node A of figure 1. Node A is coupled through resistor R1 to the output of summing block 18. Jackson states, "The summing block 18 combines the parabolic signal
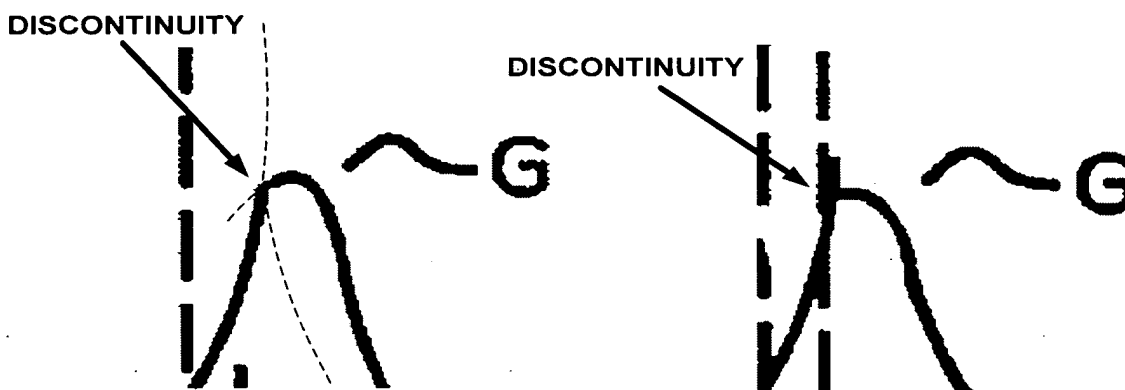
and the DC width voltage which are then output as the East-West correction signal" (Jackson, 4:67-5:2). Thus, waveform A is a correction signal. Jackson explains that waveform A has discontinuities: "The parabolic waveform depicted in A of FIG. 3 is symmetrically disposed during the combined vertical trace and retrace intervals with the parabolic cusps occurring symmetrically during the retrace interval" (Jackson, 7:39-43 (emphasis added)). From node A to node E in figure 1, waveform A is amplified and inverted. Waveform E of figure 3 shows the amplified and inverted waveform A at node E without selective feedback. The circuit of figure 1, however, does provide selective feedback, and thus waveform E represents a hypothetical waveform. The actual waveform at node E with selective feedback is shown as waveform F. Jackson states that waveform F contains distortions resulting when frequency dependent feedback selectively modifies the parabolic cusps of waveform A. Thus, waveform F also contains discontinuities (asymmetrical shaping) because it is generated when a correction signal with discontinuities (cusps) is amplified (and modulated with a sawtooth signal). Jackson explains:

> "FIG. 3E shows the signal at point E of FIG. 1 without selective feedback. The selective feedback produced by resistor R302 and capacitor C302, introduces phase shift or delay to the parabolic signal component developed by capacitor C8. The delay resulting from the selective feedback is depicted by 'd' in waveform F, for example 1 millisecond, which represents the time difference between waveforms A and F, of FIG. 3. Additionally the frequency dependent feedback selectively modifies the shape of the parabolic cusp, corresponding to the top of the rastor. This asymmetrical shaping is shown at G in waveform F of FIG. 3, and may be explained as a consequence of the frequency dependent feedback resulting in different phase shifts, or time delays, for higher frequency components of the correction parabola." (Jackson, 7:44-58 (emphasis added)).

Thus, Jackson states that the distortion caused by amplifying discontinuities in correction signal A is what creates the asymmetrical shaping of waveform F. The discontinuities from the asymmetrical shaping are designated "G" by Jackson in figure 3 below.

The discontinuities in waveform F are shown in more detail below.

The consequences of this type of selective modification by frequency
dependent feedback on discontinuities in a correction signal is explained in the
Specification, which states, "amplifier 326 distorts a discontinuous portion 330 of
correction signal CS2, creating a distorted signal portion 331. FIG. 3B shows a
waveform for an amplifier output signal corresponding to correction signal
component CS2. The reason amplifier 326 distorts discontinuous portion 330 is
because amplifier 326 has a limited frequency bandwidth" (Specification, para.
[0012] (emphasis added)). Figure 3B of the application is reproduced below.
The distorted signal portion 331 of the Specification corresponds to the
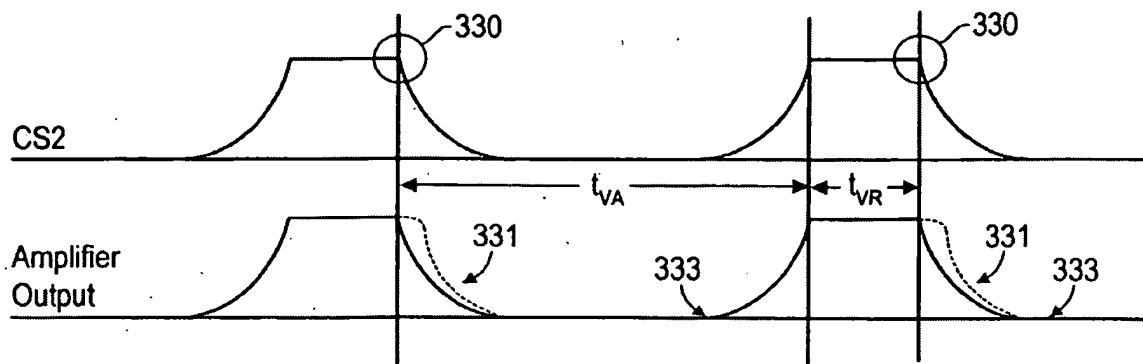asymmetrical shaping "G" of Jackson.

Fig. 3B

(ii) The waveform of figure 3, part F, does not disclose the recited correction signal.

Not only does FIG. 3F of Jackson illustrate, and the specification of Jackson explain, and that waveform F of Jackson has discontinuities, but waveform F of Jackson does not disclose the recited correction signal. Claim 55 recites:

> "generating a sawtooth signal . . .;
> generating a correction signal with no discontinuities . . .;
> modulating the amplitude of the sawtooth signal using the correction signal to generate a deflection signal; and
> amplifying the deflection signal . . ." (emphasis added).

Waveform F of Jackson does not disclose the recited correction signal because waveform F results when a correction signal and a sawtooth signal are combined and then amplified. Although the Examiner correctly points out that claim 55 does not require that there is only one correction signal, Jackson anticipates claim 55 only if at least one specific signal in Jackson discloses the one specific correction signal recited in claim 55. Waveform F does not disclose the recited correction signal that is used to modulate a sawtooth signal to generate a deflection signal, which is then amplified.

Jackson discloses that waveform A at node A is an East-West correction signal. (Jackson, 4:67-5:2) Jackson further discloses that East-West correction

signal is directly coupled to "summing point D". (Jackson, 5:52-53) A sawtooth signal 21 is generated by IC U1. (Jackson, 4:46-48) Jackson states, "The vertical sawtooth is added to the composite signal at point D and may be considered to impart a vertical tilt to the vertical parabolic signal." (Jackson, 7:44-58 (emphasis added)). Consequently, at node E the circuit of Jackson selectively modifies the combined sawtooth and East-West correction signal. Therefore, waveform F at node E discloses neither (i) the combined sawtooth and East-West correction signal of node D, nor (ii) the East-West correction signal on node A.

Although claim 55 does not require that there is only one correction signal, and although Jackson might disclose multiple correction signals, waveform F does not disclose the specific recited "correction signal" that is used to modulate a sawtooth signal to generate a deflection signal (according to the claim limitation "modulating the amplitude of the sawtooth signal using the correction signal to generate a deflection signal"). Rather, waveform F corresponds to a deflection signal that has been generated from an East-West correction signal that was already combined with sawtooth signal 21.

Claim 55 further recites, "the deflection signal is not distorted". Waveform F corresponds to a deflection signal, and, as explained above, waveform F is distorted. Jackson explains the distortion as follows: "This asymmetrical shaping is shown at G in waveform F of FIG. 3, and may be explained as a consequence of the frequency dependent feedback resulting in different phase shifts, or time delays, for higher frequency components of the correction parabola." (Jackson, 7:54-58 (emphasis added) Therefore, Jackson does not disclose the recited deflection current signal that is not distorted.

Claims 55 and 61 are allowable because Jackson does not disclose either (i) the recited "correction signal with no discontinuities" that is used to modulate a sawtooth signal to generate a deflection signal, or (ii) the recited deflection current signal that is not distorted.

C. Rejection of claims 60, 62-67, 69-72 and 74

Claims 60, 62-67, 69-72 and 74 are rejected as being unpatentable under 35 U.S.C. § 103(a) over Jackson et al. in view of George (U.S. Patent No. 5,648,703).

(i) Claims 60, 62 and 72.

Dependent claim 60 incorporates the following limitations of independent claim 55: "generating a correction signal with no discontinuities, wherein the correction signal has a vertical retrace time t_{VR} and a vertical active time t_{VA} . . . generate a deflection current signal, wherein the deflection current signal is not distorted when the correction signal transitions from the vertical retrace time t_{VR} to the vertical active time t_{VA}" (emphasis added).

Independent claim 62 recites, "the horizontal correction signal has no discontinuities, wherein the horizontal correction signal has a vertical active time t_{VA} and a vertical retrace time t_{VR}, and wherein the horizontal deflection current signal is not distorted after a transition from the vertical retrace time t_{VR} to the vertical active time t_{VA}" (emphasis added).

Independenet claim 72 recites, "generate a horizontal deflection current signal, wherein the horizontal correction signal does not have any discontinuities" (emphasis added).

In the Examiner's Answer, the Examiner states that she "agrees with the Appellant that George does not teach generating a correction signal with no discontinuities, or a deflection current signal that is not distorted . . ." (Examiner's Answer, p. 11, lines 12-14). As Appellant has explained above, Jackson does not teach either (i) the recited "correction signal with no discontinuities", or (ii) the recited deflection current signal that is not distorted. Thus, the combination of Jackson and George does not teach all of the claim limitations of claims 60, 62 or 72.

Therefore, reversal of the §103(a) rejection of claims 60, 62 and 72 is requested.

(ii) <u>Claims 63-67, 69-71 and 74</u>.

Claims 63-67, 69-71 and 74 depend directly or indirectly from one of base claims 55, 62 and 72 and are allowable for at least the same reasons as pertain to one of base claims 55, 62 and 72.

Reversal of the §103(a) rejection of claims 63-67, 69-71 and 74 is requested.

D. **Rejection of claims 68 and 73**

Claims 68 and 73 are rejected as being unpatentable under 35 U.S.C. §103(a) over Jackson in view of George and further in view of Pspice (http://www.orcad.com/pspicead.aspx)

Claim 68 incorporates the following limitation of base claim 62: "the horizontal correction signal has no discontinuities, wherein the horizontal correction signal has a vertical active time tVA and a vertical retrace time tVR, and wherein the horizontal deflection current signal is not distorted after a transition from the vertical retrace time tVR to the vertical active time tVA" (emphasis added). Claim 73 incorporates the following limitation of base claim 72: "generate a horizontal deflection current signal, wherein the horizontal correction signal does not have any discontinuities."

In the Examiner's Answer, the Examiner states that she "agrees with the Appellant that Psipce [sic] does not teach generating a correction signal with no discontinuities, or a deflection current signal that is not distorted . . ." (Examiner's Answer, p. 12, lines 13-15) The Examiner's Answer also states, "The Examiner agrees with the Appellant that George does not teach generating a correction signal with no discontinuities, or a deflection current signal that is not distorted . . ." (Examiner's Answer, p. 11, lines 12-14). As Appellant has explained above, Jackson does not teach either (i) the recited "correction signal with no discontinuities", or (ii) the recited deflection current signal that is not distorted.

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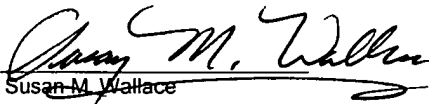Filing Date: April 5, 2004
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Because the combination of the teachings of Jackson, George and Pspice does not teach all limitations of base claims 62 and 72, reversal of the §103(a) rejection of claims 68 and 73 is requested.

IV. CONCLUSION

Appellant requests that the Board reverse the §102 and §103 rejections of claims 55 and 60-74.
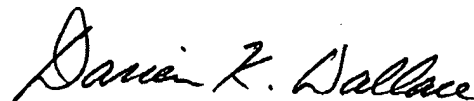
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